

## INTERNATIONAL SEARCH REPORT

Inter national Application No

PCT/GB2004/004714

**A. CLASSIFICATION OF SUBJECT MATTER**  
G06K9/00

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**Minimum documentation searched (classification system followed by classification symbols)  
G06K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, INSPEC, COMPENDEX, BIOSIS

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	MARKOWITZ Z ET AL: "Blind de-mixing real-time algorithm of piecewise time series mixture" NEURAL NETWORKS, 1999. IJCNN '99. INTERNATIONAL JOINT CONFERENCE ON WASHINGTON, DC, USA 10-16 JULY 1999, PISCATAWAY, NJ, USA, IEEE, US, vol. 2, 10 July 1999 (1999-07-10), pages 1033-1037, XP010372706 ISBN: 0-7803-5529-6 cited in the application P. 1034-1036, sections "II. Method" and "III. Result" figures 2-6  ----- -/-	1-6

☒ Further documents are listed in the continuation of box C.☐ Patent family members are listed in annex.

## \* Special categories of cited documents:

\*A\* document defining the general state of the art which is not considered to be of particular relevance

\*E\* earlier document but published on or after the international filing date

\*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

\*O\* document referring to an oral disclosure, use, exhibition or other means

\*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*&amp;\* document member of the same patent family

Date of the actual completion of the international search

4 November 2005

Date of mailing of the international search report

29/11/2005

Name and mailing address of the ISA

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>CARDOSO J-F ET AL: "EQUIVARIANT ADAPTIVE SOURCE SEPARATION"  IEEE TRANSACTIONS ON SIGNAL PROCESSING,  IEEE SERVICE CENTER, NEW YORK, NY, US,  vol. 44, no. 12, December 1996 (1996-12),  pages 3017-3030, XP000688521  ISSN: 1053-587X  cited in the application  P. 3019-3022, Sections "III. Serial Matrix Updating" &amp; "IV. Serial Updates for Orthogonal Contrasts"</p>	1-6
A	<p>A. CICHOCKI: "Adaptative Blind Signal and Image Processing"  2002, WILEY, XP002351650  page 274, column 277  page 291 - page 292</p>	1-6
A	<p>EVERSON R M ET AL: "PARTICLE FILTERS FOR NON-STATIONARY ICA"  ADVANCES IN INDEPENDENT COMPONENT ANALYSIS, XX, XX, 2000, pages 23-41,  XP008047977  cited in the application  p. 28-33, Sections "2.4 Particle Filters",  "2.5 Illustration of non-Stationary ICA"figures 2.2,2.3</p>	1-6
A	<p>JAFARI M G ET AL: "A COMBINED KALMAN FILTER AND NATURAL GRADIENT ALGORITHM APPROACH FOR BLIND SEPARATION OF BINARY DISTRIBUTED SOURCES IN TIME-VARYING CHANNELS"  2001 IEEE INTERNATIONAL CONFERENCE ON ACOUSTICS, SPEECH, AND SIGNAL PROCESSING. PROCEEDINGS. (ICASSP). SALT LAKE CITY, UT, MAY 7 - 11, 2001, IEEE INTERNATIONAL CONFERENCE ON ACOUSTICS, SPEECH, AND SIGNAL PROCESSING (ICASSP), NEW YORK, NY : IEEE, US,  vol. VOL. 5 OF 6, 7 May 2001 (2001-05-07),  pages 2769-2772, XP008048013  ISBN: 0-7803-7041-4  cited in the application  the whole document</p>	1-6

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>LATHAUWER DE L ET AL: "FETAL ELECTROCARDIOGRAM EXTRACTION BY BLIND SOURCE SUBSPACE SEPARATION" IEEE TRANSACTIONS ON BIOMEDICAL ENGINEERING, IEEE SERVICE CENTER, PISCATAWAY, NJ, US, vol. 47, no. 5, May 2000 (2000-05), pages 567-572, XP002234358 ISSN: 0018-9294 page 570, left-hand column, paragraph 1 - page 571, right-hand column, paragraph 1; figures 1-5</p> <p>-----</p>	1-6

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International application No.  
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## Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.: 8-33  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:  
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

# INTERNATIONAL SEARCH REPORT

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FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.2

Claims Nos.: 8-33

1 The International Preliminary Examining Authority considers that claims 23-33 are so unclear that they fail to comply with the prescribed requirements to such a extent that a meaningful search could not be carried out under Article 17(2)(a)(ii) PCT.

1.1 These claims relate to a software. However they are not defined by the features of the software, but by the result to be achieved.

2 The International Searching Authority considers that claims 7-11, 18-22 are so unclear and so inadequately supported by the description that they fail to comply with the prescribed requirements to such a extent that a meaningful search could not be carried out. Therefore no international search report will be established for these claims under Article 17(2)(a)(ii) PCT.

2.1 Claims 7 and 18 do not make sense (it is the data which is a measure of the signals and not vice-versa; and if the signals are statistical measures, then they are already processed, and do not come from sensors, see desc. p. 10, 20 - p. 11, l. 8).

2.2 Claims 8 and 19 are undefined and unclear in that the term "snapshot" is not defined and that its awkward wording does not appear to make any sense nor to be supported by the disclosure of the claimed invention in the description (p. 38, l. 9 - p. 44, l. 7). This applies likewise to claims 9 to 11 and 20 to 22 as they are dependent on claim 8.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.